Department of Biochemical Engineering and Biotechnology

Minutes of the Departmental Faculty Board Meeting
(DFB-04/2020-2021)

November 27, 2020

The fourth meeting of the *Departmental Faculty Board* for the academic session 2020-2021 was held during **November 25-27, 2020** through video conferencing (Microsoft Teams). While most faculty members of the department were present for all the meetings, some of them indicated their inability to attend either completely or partially.

1. Confirmation of the minutes of the 3rd meeting of the DFB for the session 2020-2021.

The minutes of the meetings were confirmed as circulated

2. Matters arising out of the minutes of the meetings 03/2020-2021

None

3. Class Committee interactions

A series of Class Committee Meetings for the academic session Semester 2, 2020-2021, were held as per the following schedule:

November 25, 2020	@ 4 PM	-	2016- and 2017-entry UG batch
November 26, 2020	@ 3 PM	-	2018- and 2019-entry UG batch
November 27, 2020	@ 3 PM	-	2020-entry PhD/MSR students

The reports submitted by each of the student batches are enclosed (**Annexure - 1**). The Board considered the concerns raised during the meeting and the faculty members as well as the students were requested to consider the recommendations.

4. Courses to be floated in Semester 2, 2020-21.

The Board finalized the courses to be floated in Semester 2, 2020-21 as given in **Annexure - 2**.

4. Mid-term evaluation of projects (BTP and MTP).

The board scrutinized the mid-term marks awarded to students registered for BTP and MTP in the current semester and applied moderation to finalize the marks as given in **Annexures - 3A and 3B**.

The meeting ended with a vote of thanks to the Chair.

Ritu Kulshreshtha
Convener, DFB

Distribution
All Faculty (by email)

Annexure - 1

Report for Class Committee meeting (25-11-2020)

2016 Entry Batch

BBL735 - Genomics and Proteomics

1. Good teaching and evaluation method, feedback well taken, sets a standard for how courses should be taught in the department. Rated 10/10
2. Grading was not fair and don't talk politely during exams. He is more personal than official. Attack on personality, never understands the personal issues like internet etc....Make provoke us. Teaching style is not bad at all, but evolution method is very unfair or based on the mood. Evolution method unfair. Rated 3/10
3. Extremely good teacher. One of the best teachers in DBEB. Asks good questions, supports critical thinking and also receptive to doubts. Rated 10/10
4. No problems. (Maybe the number of quizzes is too much, but other than that nothing) Rated 10/10

BBL737 - INST. & ANA. METH. IN BIOENGG

1. The marks distribution 50 for minor1 and 50 for minor2 makes it difficult for students to study.
2. Instead two of the profs. could have their quizzes before the minor2 for 7 each and the minor2/major could be for 36 marks. Rated 5/10

BBL741 - PROTEIN SCIENCE & ENGINEERING

1. Rated 7/10
2. Rated 9/10 Too good prof in all aspects. Most descent prof. No unfair. No complaint

BBL754 - OPTICS WITHIN LIFE SCIENCES

Answer scripts not yet shared. evaluation policy not clear, Slides not uploaded Rated 4/10

BBD851 - Master's Project (MTP)

1. The weightage for the mid-term evaluation is too much.
2. Given all the uncertainty regarding the online semester and also the placements, many of us couldn't focus properly on MTP.
3. We would only be able to focus properly after the placements (December 13).
4. So as a one-time exception, given the circumstances, I request you to reduce the weightage of mid-term evaluation.
5. This is especially important for those of us who have a laboratory component in our MTP. Rated 6/10

GENERAL FEEDBACK

1. not related to any course in specific but just about the overall situation of this online semester. I hardly find any motivation to study. it is like there is no interest in any of this. and i tend to take everything easy. be it courses, mtp, placements. i do not understand what to do. i dont know if i want to just drop the whole semester and start again when everything becomes normal or just go like this even though it kinda is holding me back and might make the rest of all very diluted. i just wanted to say this. maybe i should just do it or i dont know i am very unsure any advice or anything from your side?

2. It feels so pointless to me that profs. are holding on to their rigorous standards in biochemical engineering courses, that nobody cares about. These standards only matter for those students going to PhD (which is less than 5 per cent of the population) and why doesn't the profs. realise that even those going to a PhD are going in Computational Biology or Biology. Why is this department still sticking on to Biochemical Engineering? Why are you still floating this degree every year, when you know that nobody is actually "choosing" it? Instead, I recommend floating a new degree, B.Tech in Computational Biology, in collaboration with the Computer Science Department and Kusuma School of Biology. Most students who clear JEE want to study maths, and even to biology their contribution can come only through maths. People get disillusioned with the amount of "ratta" they have to do in biology courses, that's why most people don't go to these fields. But given that Mathematics and Computation are increasingly becoming significant in biology, it's important that mathematically oriented people chose these fields. So please consider this.

3. My other concern is that students are incredibly stressed managing placements, MTP and online classes and the department is very unconcerned like always.

Report for Class Committee meeting (25-11-2020)

2017 Entry Batch

BBL731 – Bioseparation Engineering

1. Decent lectures, the content and the speed at which it is delivered are good.
2. Minor tested the students' understanding, and was the right length.
3. Course load isn't too much

BBL732 – Bioprocess Plant Design

the class taken on tuesday was earlier told to be 1 hour tut session but instead, there is 3 hour lecture session being taken. this amounts to 6 hour lectures in a week, which should not happen

BBL733 – Recombinant DNA Technology

There's a lot of content given in a single lecture that adds up significantly during exams or quizzes. Minor length was perfect, course load is a little high for a 2 credit course

BBL737 - INST. & ANA. METH. IN BIOENGG

1. Some of the lectures exceed 1 hr, and that makes it difficult to attend the next class sometimes.
2. Minor was lengthy, should have been shorter. Questions were good, they tested the students' understanding

Report for Class Committee meeting (26-11-2020)

2018 Entry Batch

BBL231: Molecular Biology & Genetics

- Students generally like the approach of Preeti ma'am towards the course. In fact, amongst all online courses, the attendance in her lectures is the highest.

- Some of the suggestions made by the batch are:

    1. The exam questions felt distant and too difficult as we could not relate that much during online classes.
    2. Use of a digital pen to explain concepts to compliment the slides will be helpful.
    3. The minor exam was lengthy and for just an hour of time.
    4. The batch feels that most of the announcements have been made last minute and a few days of notice before the announcement of exam policy, viva etc would be better.

BBL331: Bioprocess Engineering

1. Students are facing problems in connecting with the Professor and feel that there is a lack of understanding, hence are not learning much in the course.

2. The questions asked in the minor felt above the level taught in class.

3. Further, since we had to email the Professor during the minor for any queries, the minor exam performance was adversely affected. If a proctored exam or at least the presence of Professor Zia on Microsoft Teams during future exams might be helpful along with an exam more along the lines of what is being taught during the class.

4. Also, since the cancellation of quizzes during the course, there is some uncertainty about the exact course policy and marks distribution.

Report for Class Committee meeting (26-11-2020)

2019 Entry Batch

BBL131: Principles of Biochemistry

1. There is some internet connection at Prof. Prashant's end and sometimes the classes break up in between and there is a loss of important information.
2. Students say that a surprise quiz should not be there at least which constitutes 30% of the whole course.
3. Some also feel that there is a communication gap in this course and the minor was a bit lengthy.

BBL132: General Microbiology

1. Best thing about BBL132 lectures is that they are quite interactive and Prof. Sharma pushes students to interact in the online class which is a bit difficult during an online lecture.
2. Students complained that the grading and marking scheme seem difficult to the majority of the class.
3. Also some students feel that slides are a little insufficient.

BBL133: Mass and energy balance in Biochemical Engineering

1. After minors most of the lectures were conducted without any slides or visual source which makes it difficult in understanding of questions and concepts.
2. The slides shared mostly contain questions and numericals and lack theoretical topics and specificity in regards of the syllabus.
3. No formal mail regarding the information and procedures about the presentation has been received yet.

SBL100: Introductory Biology for Engineers

1. Students feel that there should be some other ways of evaluation as well 1 minor and 1 major does not give proper opportunities to students for improving.
2. The weightage of the course evaluation should have been distributed rather than being concentrated into 2 exams only.
3. There were no provisions to stop cheating in the minor exam. The course coordinator should take up steps to ensure that no kind of unfair means are adopted.
4. There should possibly be Scaling down of marks, as if the weightage of the paper is 50, it should be conducted out of 100 and then possibly be scaled down to 50. This will help students to improve their scores and grades.

Report for Class Committee meeting (27-11-2020)

2020 Entry PhD/MSR Students

General

- Whether auditing a course is possible or not for us?
    - If yes, how many courses we can audit during this semester.
    - If no, is it at all possible to introduce this option.
- It would be better if the faculty upload all the necessary information about term papers or assignments in the announcement section on moodle on a regular basis (that way it'll be easier for us to keep track of the deadline etc)
- Reduce burden of term paper. As we have 4 term paper, 1 in advance biochemical engineering, 1 bioseparation engineering, 5 paper to be reviewed in RDT and 1 term paper for microbial biochemistry and one more review paper in HSL800, this is such a huge burden. (OR) extend the deadline for submission.

BBL731-Bioseparation Engineering

- Mathematical derivations and related background concepts are to be taught slowly and clearly.+1
- Require doubt clearing sessions

BBL830-Microbial Biochemistry

- Asynchronous mode of teaching is good, compared to synchronous. (+1+1+1+1)
- I think the asynchronous mode is better planned than the live lectures. (+1+1+1+1+1)
- It is difficult to Match the speed of ma'am, so asynchronous is better mode.

BBL733-Recombinant DNA Technology

- It becomes difficult to complete the exam due to time limitation
- Remove negative marking
- Segregate minor and major syllabus

BBL737- Inst. & Ana. Methods in Bioengineering

- Some of the topics require prior knowledge in that field and it has become difficult to understand such concepts.
- Please upload all the documents into moodle and imparatus.
- Exam timing is very less, only 1 hour and 15 minute and 15 min for submission. I think we are unable to complete the exam in only 1 hour approximately. I would suggest it should be at least 2 hrs exams. +20 min submission time

BBL850- Advanced Biochemical Engineering

- I expect the question paper should be a mixture of logical, analytical, theoretical, problem solving questions. But here it is only problem solving.
- The toughness level of question paper should be such that 50% of it can be attempted by even an average student, 20% by good students and the rest 30% by intelligent students
- More quizzes should be conducted. So, that we get more opportunities to score marks, because some of us have difficulty in scoring decently in the quizzes and the minor exam.

Annexure - 2

Courses to be floated in Semester II, 2020-2021

Departmental Core Courses (DC)

Sl	Course Number	Course Title	L - T - P Structure			Credits	Course Coordinator	Slot
			L	T	P			
1	BBL431	Bioprocess Technology	2	0	0	2	ZAS	J
2	BBL432	Fluid Solid Systems	2	0	0	2	SN	H
3	BBL433	Enzyme Science and Engineering	3	0	2	4	KJ	D
4	BBL434	Bioinformatics	2	0	2	3	IG	F
5	BBQ301	Seminar Course – I	0	0	2	1	DS	P
6	BBQ302	Seminar Course – II	0	0	2	1	SS	P
7	BBD451	Major Project Part 1 (BB1)	0	0	6	3	IG	

Program Core Courses (PC)

Sl	Course Number	Course Title	L - T - P Structure			Credits	Course Coordinator	Slot
			L	T	P			
1	BBL736	Dynamics of Microbial Systems	3	0	0	3	AN	B
2	BBD851	Major Project Part 1 (BB5)	0	0	12	6	RK	
3	BBD852	Major Project Part 2 (BB5)	0	0	28	14	RK	

Departmental Elective (DE)

Sl	Course Number	Course Title	L - T - P Structure			Credits	Course Coordinator	Slot
			L	T	P			
1	BBL341	Environmental Biotechnology	3	0	0	3	SM	B
2	BBL443	Modeling and Simulation of Bioprocesses	3	0	2	4	AM	F
3	BBL445	Membrane Applications in Bioprocessing	3	0	0	3	RJ	J

Program Elective Courses (PE)

Sl	Course Number	Course Title	L - T - P Structure			Credits	Course Coordinator	Slot
			L	T	P			
1	BBL742	Biological waste treatment	3	0	2	4	TRS	B
2	BBL745	Combinatorial Biotechnology	3	0	0	3	PS	J
3	BBL746	Current Topics in Biochem Engg & Biotech	3	0	0	3	LED	H
4	BBL747	Bionanotechnology	3	0	0	3	PM	E
5	BBL749	Cancer Cell Biology	3	0	3	4.5	RK	F
6	BBL751	Biotechnology Entrepreneurship	2	0	0	2	RE	H

Note: BTech students need to complete 10 credits of DE and dual degree students need to complete 12 credits of PE. The BTech students can also register for PEs to complete their DE requirement.

MSR Course

Sl	Course Number	Course Title	L - T - P Structure			Credits	Course Coordinator	Slot
			L	T	P			
1	BBD895	Major Project	0	0	72	36	RJ	

Course to be floated in the Non-Graded Unit (NGU) System and NOT in the ERP

Sl	Course Number	Course Title	L - T - P Structure			Credits	Course Coordinator	Slot
			L	T	P			
Design and Practical Experience (DPE) for BBD and BBT							AM	

Annexure – 3A

BBD451 – B.Tech Major Project Part 1 – Mid Term evaluations

Sl.	Entry No.	Student Name	Mentor	Topic of research	Marks (out of 10)
1	2017BB10002	Abheet Jain	RJ	Municipal Solid Waste Management in India	8
2	2017BB10003	Abhinav Garg	SM	Not available	Absent
3	2017BB10005	Abhishek Kumar	TRS	Design a rational photobioreactor for sequestration of carbon from flue gases	8
4	2017BB10006	Anjali Arun Waghmare	LED	Designing a potentiostat for biological studies	Absent
5	2017BB10007	Ankush Barman	PS	Identification of promoters which are functional in both *Escherichia coli* and *Zymomonas mobilis*	9
6	2017BB10047	Jadhav Ashish Sunil	SN	Complex II is complex too	8
7	2017BB10016	Kartike Bhardwaj	LED	Machine learning in Electromicrobiology	9
8	2017BB10014	Kirti Kumari Khandelwal	PM	Delivery of Bioactive molecules for Breast Cancer	8
9	2017BB10017	Lagan Bhatoa	PS	Identification of core promoter sequences and comparative analysis of the genome of Gordonia spp.	9
10	2017BB10018	Medha Agarwal	SS	Analysis of soil microbiome and plant growth data under different agricultural practices	Absent
11	2017BB10020	Mukhar Jain	IG	Gene expression deconvolution to determine cell type using Deep learning	9
12	2017BB10012	Mukund Poddar	ZSA	Effects of micronutrients in operation of anaerobic digester	8
13	2016BB10038	Naman Bhargava	SM	Not available	Absent
14	2017BB10027	Neha Arora	RK	To study the expression profile and prognostic significance of Ras superfamily gene members in glioblastoma patients	9
15	2017BB10022	Nikhil Kumar Saiyam	SN	Not available	7
16	2017BB10023	Palash Gupta	SN	Evaluation of Membrane based Bio-Supercapacitors	9
17	2017BB10032	Prakhar Joshi	IG	Bulk tissue cell type deconvolution of cancer and healthy patients using MuSiC and CIBERSORT	8
18	2017BB10025	Priyanka Choudhary	TRS	Energy efficiency of biofuel production processes: Ethanol from molasses, ethanol from lignocellulosic biomass, biodiesel from jatropha	9
19	2017BB10026	Priyanka Singh	RK	To study the expression and prognostic significance of prominent apoptosis related genes in Glioblastoma (GB) patients through bioinformatics tools	9

BBD451 – B.Tech Major Project Part 1 – Mid Term evaluations

Sl.	Entry No.	Student Name	Mentor	Topic of research	Marks (out of 10)
20	2016BB10065	Raj Kumar Meena	TRS	A comparative study of Anommox and nitrification-denitrification process	6
21	2017BB10028	Rajendra Khalbadaniya	SN	Image analysis of an organelle by AutoCAD	Absent
22	2017BB10029	Ram Prabaharan T	SS	An extraction protocol for untargeted soil metabolomics	9
23	2017BB10030	Rathod Ruthik	PS	Genetic engineering approaches for improving Biosurfactant production	8
24	2020BB19005	Ratna Dubey	ZSA	Performance assessment of biological treatment systems used in waste water treatment plants	8
25	2017BB10031	Rupinder Kaur	TRS	Comparison of carbon foot-prints for Biofuel (Hydrogen, Ethanol and Biodiesel) production	8
26	2016BB10045	Sanjay Singh Poonia	PM	Study about different metal nanoparticles and their interaction with bacteria	Absent
27	2017BB10033	Sanya Verma	SM	Prediction of Carbohydrate-Active Enzymes (CAZymes) Produced by Sucrose Induced Microbacterium paraoxydans	9
28	2017BB10034	Sarthak Mishra	DS	Identifying Potential Drug Candidates For SMO Receptor From A Pool Of Bioactive Compounds From Natural Sources Traditionally Used For Skin Health	9
29	2017BB10035	Sarvesh Khimesra	LED	Exploring biochemical pathways associated with extracellular electron transfer	8
30	2015BB10058	Satyam Nathani	RK	To study the expression profile and prognostic significance of Intermediate family gene members in glioblastoma (GB) patients.	8
31	2017BB10037	Shaivee Malik	PM	Comparison of Different Hydrogel Based Drug Delivery Vehicles for Localised Cancer Therapy	9
32	2017BB10038	Shalaka Patil	RK	Expression Profile and Prognostic Significance of Metastasis-Associated Genes in Glioblastoma patients	9
33	2017BB10039	Shubham Osari	IG	Comparison of DNA and RNA sequencing for discovery of Biomarkers in Lung Cancer	7
34	2017BB10040	Simran	RJ	Technetium oxide nanoparticles Surface	7
35	2017BB10041	Sparsh Negi	RKE	Microliter Sample Collection for Microfluidics Diagnostic Assay	8
36	2017BB10042	Sukhdev	PM	Identifying lead molecules in bioactive substances from extracts for anti-cancer activity	Absent
37	2016BB10064	Tanvi Meena	AM	Gene Annotation for the branch of Unannotated Sequences in *Z. mobilis* ZM4	8
38	2017BB10045	Urvashi Dhar	ZSA	Optimisation of anaerobic sludge digestion process for waste water treatment	8
39	2017BB10046	Yash Bhatnagar	RJ	Adsorption of Amino acids on the surface of Uranium Oxide Nanoparticles	7

Annexure - 3B

BBD851 – M.Tech Major Project Part 1 – Mid Term evaluations

Sl	Entry No.	Student Name	Mentor	Topic of research	Marks (out of 10)
1	bb5130031	Robin Chaudhary	PS	Cloning and expression of the enzyme responsible for asphaltene biotransformation	7
2	bb5150008	Mayank Modi	SN	Some evolutionary aspects of ATP synthesis	6
3	bb5150014	Sayak Banerjee	RE	3D printed microfluidics automation assay	8
4	bb5160001	Rathi Aditya Prashant	DS	Understanding the biological activity of natural drugs	9
5	bb5160002	Parth Mittal	SS	Storage of microbiome for agricultural amendment	8
6	bb5160003	Harman Mehta	AM	Computational (and experimental) approaches for microbial metabolic engineering	9
7	bb5160004	Saksham Sharma	RK	To identify the genes/miRNAs/ lncRNAs involved in Tumor: Immune cell interactions in glioblastoma	9
8	bb5160005	Ayush Chachan	IG	Not available	Absent
9	bb5160006	Surbhi Gupta	PM	Design and synthesis of chiral supramolecular hydrogels for biomedical applications	9
10	bb5160007	Parth Bhardwaj	LED	Design of database for electroactive microorganisms	7
11	bb5160008	G Prathibha Bharadwaj	SS	Generation of Synthetic Microbial Communtity for stress mitigation in arable land	9
12	bb5160009	Md Ahraz Zahir	RJ	Metabolic modelling for Desferrioxamine B heterologous production	7
13	bb5160010	Madishetty Saiteja	PM	Nanocomposite hydrogels for antibacterial properties	7
14	bb5160011	Sudhish P	IG	Development of a tool for non-coding RNA analysis in single-cell RNA sequencing (scRNA-seq) data	9
15	bb5160012	Pradhumn Engle	AN	Mass Transfer coefficient measurement in bioreactors	9
16	bb5160013	Shubham Mehrol	PS	Characterization of CHAP domain containing proteins and their role in cell morphogenesis in *Rhodococcus erythropolis* PR4	7
17	bb5160015	Babu Lal Meena	RE	Digital ELISA	7